

CLAIMS

What is claimed is:

1. A method for starting up a battery-powered device after a battery failure,
2 comprising:
ascertaining a status of the battery;
4 disabling further operation of the device, when the status of the battery
is unfavorable; and
6 ensuring the integrity of a file system in the device and starting up the
device, when the status of the battery is favorable.
2. The method of claim 1, further comprising:
2 performing a shutdown sequence prior to disabling further operation of
the device, when the status of the battery is unfavorable.
3. The method of claim 1, wherein ascertaining a status of the battery comprises
2 measuring the voltage of the battery.
4. The method of claim 1, wherein ascertaining a status of the battery comprises
2 detecting whether a battery has been inserted into the device.
5. The method of claim 1, wherein the device comprises a digital camera.
6. The method of claim 5, wherein the shutdown sequence comprises retracting a
2 lens of the digital camera.

7. The method of claim 1, wherein disabling further operation of the device
2 comprises setting a disable bit.
8. The method of claim 1, wherein ensuring the integrity of a file system in the
2 device comprises:
- detecting an incomplete file-allocation-table entry;
4 deleting the incomplete file-allocation-table entry; and
outputting an error message.
9. The method of claim 8, wherein the error message comprises a warning that a
2 most recently created data object in the device has been lost.
10. The method of claim 9, wherein the data object comprises a digital image.
11. The method of claim 1, wherein starting up the device comprises setting a
2 shutdown bit.
12. The method of claim 1, wherein starting up the device comprises clearing a
2 disable bit.
13. A method for managing the operation of a battery-powered device in response to a
2 power-on request, the device including a shutdown bit and a disable bit, the
method comprising the steps of:
- 4 (a) testing the shutdown and disable bits;

(b) starting up the device and setting the shutdown bit, when the
6 shutdown and disable bits are both cleared;

(c) performing the following steps (i)-(iii), when the shutdown bit is set
8 and the disable bit is cleared;

(i) ascertaining a status of the battery;

(ii) performing a shutdown sequence, clearing the shutdown bit,
10 and setting the disable bit, when the status of the battery is
12 unfavorable;

(iii) starting up the device and ensuring the integrity of a file
14 system in the device, when the status of the battery is favorable; and

(d) performing the following steps (i)-(iii), when the shutdown bit is
16 cleared and the disable bit is set;

(i) ascertaining a status of the battery;

(ii) starting up the device, ensuring file system integrity,
18 clearing the disable bit, and setting the shutdown bit, when the status of
20 the battery is favorable;

(iii) preventing operation of the device, when the status of the
22 battery is unfavorable.

14. The method of claim 13, wherein ascertaining a status of the battery comprises
2 measuring the voltage of the battery.

15. The method of claim 13, wherein ascertaining a status of the battery comprises
2 determining whether a battery has been inserted into the device.

16. The method of claim 13, wherein the device comprises a digital camera.

17. The method of claim 16, wherein the shutdown sequence comprises retracting a
2 lens of the digital camera.

18. The method of claim 13, wherein ensuring the integrity of a file system in the
2 device in steps (c)(iii) and (d)(ii) comprises:

detecting an incomplete file-allocation-table entry;
4 deleting the incomplete file-allocation-table entry; and
outputting an error message.

19. The method of claim 18, wherein the error message comprises a warning that a
2 most recently created data object in the device has been lost.

20. The method of claim 19, wherein the data object comprises a digital image.

21. A device, comprising:

2 a battery;
a circuit to determine a status of the battery;
4 a file system; and
control logic configured to perform a shutdown sequence and prevent
6 further operation of the device, when the status of the battery is unfavorable,
and to ensure the integrity of the file system and start up the device, when the
8 status of the battery is favorable.

22. The device of claim 21, wherein the circuit to determine a status of the battery is
2 configured to measure the voltage of the battery.
23. The device of claim 21, wherein the circuit to determine a status of the battery is
2 configured to detect the insertion of a battery.
24. The device of claim 21, wherein the device comprises a digital camera.
25. The device of claim 24, wherein the control logic is configured to retract a lens of
2 the digital camera during the shutdown sequence.
26. The device of claim 21, wherein the file system comprises a file allocation table
2 having at least one entry, the file system being configured to allow the loss of at
most one entry when the battery fails.
27. The device of claim 26, wherein the control logic is configured to detect an
2 incomplete entry, delete the incomplete entry, and output an error message.
28. The device of claim 27, wherein the error message comprises a warning that a
2 most recently created data object in the device has been lost.
29. The device of claim 28, wherein the data object comprises a digital image.

30. The device of claim 21, wherein the control logic comprises a shutdown bit to
2 detect when the device has experienced a battery failure.

31. The device of claim 21, wherein the control logic comprises a disable bit to
2 prevent the device from being operated when the status of the battery is
unfavorable.

32. A device, comprising:

2 means for providing power;
means for determining a status of the means for providing power;
4 means for managing files; and
means for performing a shutdown sequence and preventing further
6 operation of the device, when the status of the means for providing power is
unfavorable, and for ensuring the integrity of the means for managing files and
8 starting up the device, when the status of the means for providing power is
favorable.

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33. The device of claim 32, wherein the means for providing power comprises a
2 battery.

34. The device of claim 33, wherein the means for determining a status of the means
2 for providing power is configured to measure the voltage of the battery.

35. The device of claim 33, wherein the means for determining a status of the means
2 for providing power is configured to detect the insertion of a battery.

36. The device of claim 32, wherein the device comprises a digital camera.

37. The device of claim 36, further comprising:
2 means for retracting a lens of the digital camera during the shutdown
sequence.

38. The device of claim 32, wherein the means for managing files comprises a file
2 allocation table having at least one entry, the means for managing files being
configured to allow the loss of at most one entry when the means for providing
4 power fails.

39. The device of claim 38, further comprising:
2 means for detecting an incomplete entry, deleting the incomplete entry,
and outputting an error message.

40. The device of claim 39, wherein the error message comprises a warning that a
2 most recently created data object in the device has been lost.

41. The device of claim 40, wherein the data object comprises a digital image.

42. The device of claim 32, wherein the means for performing a shutdown sequence
2 and preventing further operation of the device, when the status of the means for

providing power is unfavorable, and for ensuring the integrity of the means for
4 managing files and starting up the device, when the status of the means for
providing power is favorable, comprises a shutdown bit to detect when the device
6 has experienced a failure of the means for providing power.

43. The device of claim 32, wherein the means for performing a shutdown sequence
2 and preventing further operation of the device, when the status of the means for
providing power is unfavorable, and for ensuring the integrity of the means for
4 managing files and starting up the device, when the status of the means for
providing power is favorable, comprises a disable bit to prevent the device from
6 being operated when the status of the means for providing power is unfavorable.